



# Siemens Air-Cooled Generators SGen-100A-2P Series

with ratings from 25 MVA up to 300 MVA



Final assembly of SGen-100A-2P series at Siemens Generator Plant Erfurt, Germany

As one of the international market leaders in the manufacturing of synchronous machines, Siemens has accumulated many decades of experience in the production of generators. Proven two-pole air-cooled generators, from our SGen-100A-2P series, are available for various types of power plants e.g. fossil-fueled power plants – for both gas and steam turbine generators. They can be driven by Siemens turbines or by turbines from other manufacturers.

Our air-cooled generators are developed by using state-of-the-art methods. By working with special computer programs for calculation, design and production, we can optimally match the generators to the customers' needs.

# Two-pole three-phase synchronous generator

Outstanding design features of the Siemens air-cooled SGen-100A-2P series generators include:

- high efficiency,
- low noise emissions,
- low installation and commissioning costs,
- high serviceability and
- long service life.

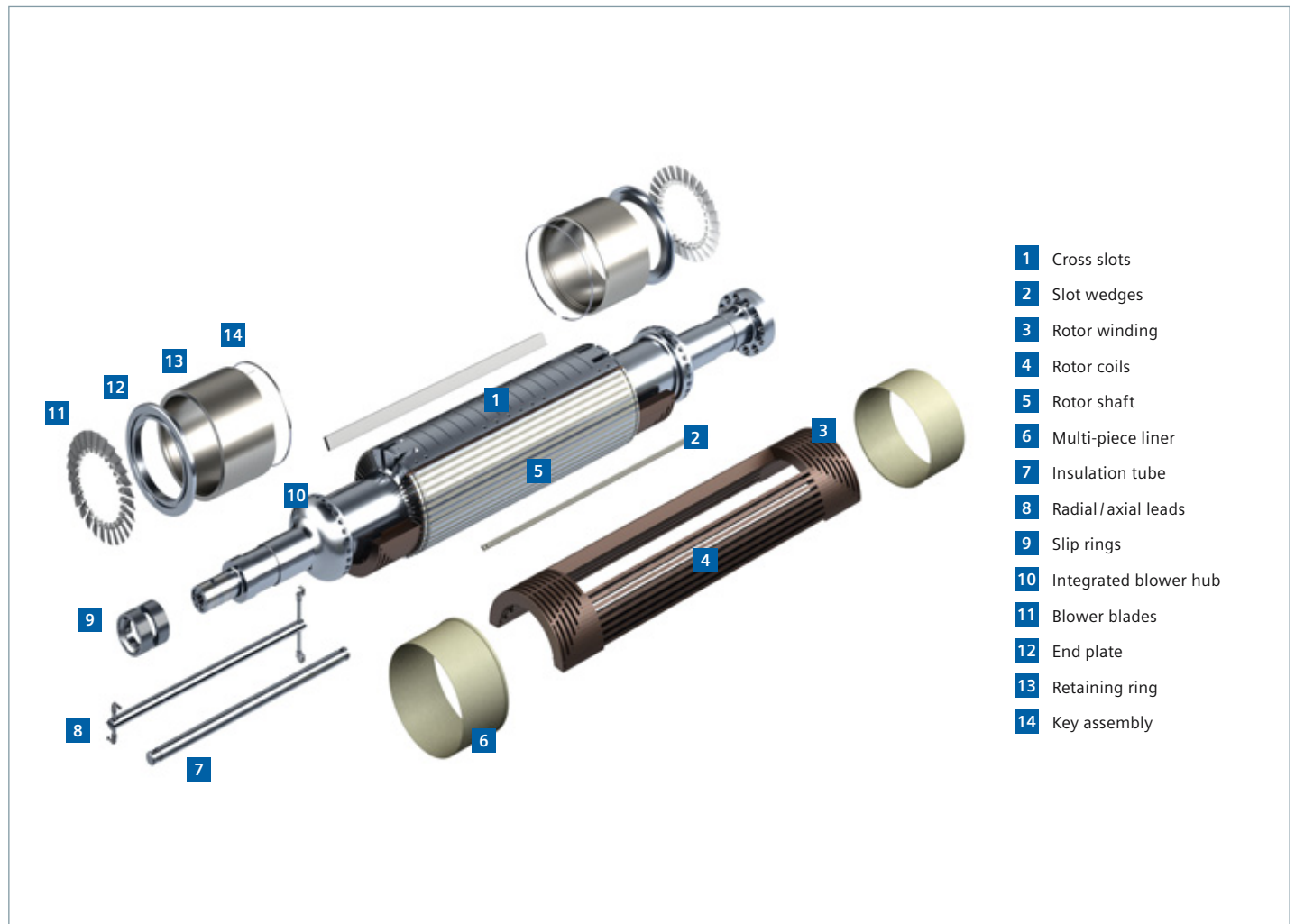
For each customer project, a customized generator is developed according to the individual technological specifications, output and customer needs. Using a building-block system, the required generator type is designed by choosing from different diameters and by making adjustments to length. This enables us to supply our customers with generators specially tailored to their requirements.

Siemens two-pole three-phase synchronous generators are used as high-voltage generators with a laminated cylindrical rotor or a solid salient-pole rotor. Their rotor windings have direct radial air cooling and their stators indirect air cooling.

These generators use either brushless excitation with a stationary field exciter and rotating bridge-connected rectifier or static excitation, whereby the exciter power is taken from static excitation equipment and supplied to the rotor winding via the brush gear, carbon brushes and slip rings.

The standard design is IM 7215 according to IEC 34-7 and features pedestal type sleeve bearings which are supplied by the oil system of the prime mover. Other designs are available as options.

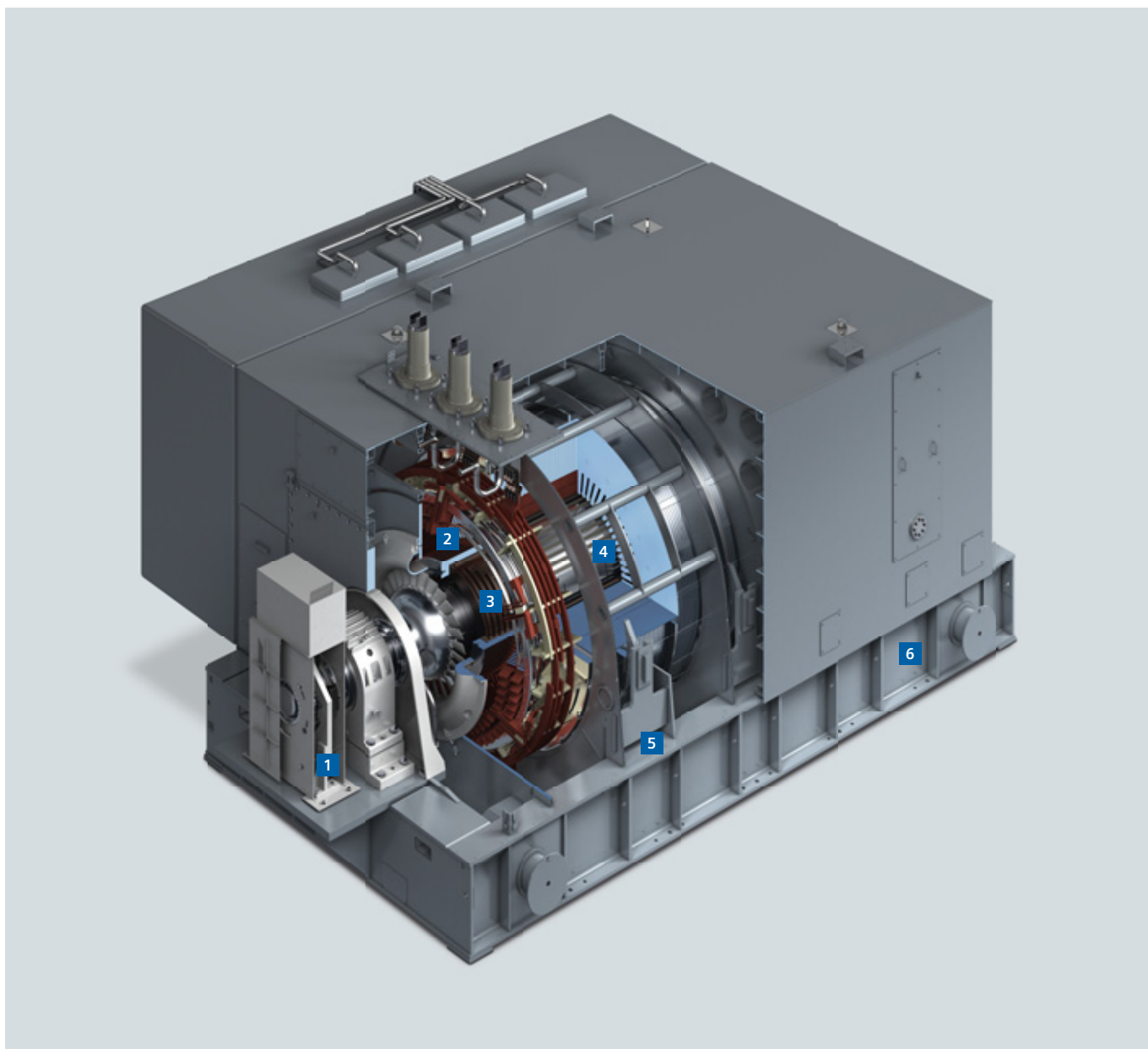
2-pole generators are customized for the use on gas and steam turbines. SGen-100A-2P series generators are available with different types of cooling systems: TEWAC (Totally Enclosed Water-to-Air Cooling), CACA (Closed Air-to-Air Cooling) or DAC (Direct Air Cooling, cooling air intake via filter).



- 1 Excitation** is either brushless or static
- 2 Double-layer stator winding** insulated by using the proven Siemens epoxy-mica (MICALASTIC®) system produced by the Vacuum Pressure Impregnation (VPI) process

- 3 Rotor winding** comprising several directly cooled coils embedded in the longitudinal slots of the rotor shaft
- 4 The rotor** comprises shaft and coupling, rotor winding, rotor end-bells and axial fans

- 5 Welded frame** carrying the laminated stator core and stator winding
- 6 Welded base frame** to support the bearings with the rotor and the generator frame



#### Technical data

Frequency	Model	Power factor	Apparent power	Efficiency	Terminal voltage
50 Hz	SGen5-100A-2P	0.80 to 0.85	25 MVA to 300 MVA	up to 98.7 %	6.3 kV to 16 kV
60 Hz	SGen6-100A-2P	0.80 to 0.85	25 MVA to 235 MVA	up to 98.7 %	6.3 kV to 16 kV



# SGen-100A-2P series: References

With almost 400 units in operation our air-cooled SGen-100A-2P generator series has earned Siemens a flawless reputation in the field of reliable power generation. Therefore, the following references are only a few examples to illustrate the vast potentials of the SGen-100A-2P generator series.



## Las Flores, Colombia Simple-cycle power plant

### Performance

Generator Type:	SGen6-100A-2P
Apparent Power:	200 MVA
Terminal Voltage:	16.5 kV



## BASF Ludwigshafen, Germany Combined-cycle power plant

### Performance

Generator Type:	SGen5-100A-2P
Apparent Power:	112 MVA
Terminal Voltage:	10.5 kV



## Andasol 2, Spain Solar power station

### Performance

Generator Type:	SGen6-100A-2P
Apparent Power:	61 MVA
Terminal Voltage:	11 kV

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